

SOME PARASITIC NEMATODES FROM SOUTH AUSTRALIAN
MARINE FISH

By T. HARVEY JOHNSTON and PATRICIA M. MAWSON

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(Fig. 1-8)

The fish hosts of most of the parasites recorded in this paper formed part of collections made on our behalf by Messrs. H. M. Cooper, E. J. Hanka, and S. Hurcombe, the material having been obtained from St. Vincent Gulf and Kangaroo Island. We desire to express our thanks to these collaborators, and our indebtedness to the Commonwealth Research Grant to the University of Adelaide. Types of the new species will be deposited in the South Australian Museum, Adelaide.

List of fish hosts and their parasites referred to in this paper:—

- CARANX GEORGIANUS C. & V. *Stomachus marinus* (L.), larva, American River, Kangaroo Island.
- PAGROSOMUS AURATUS Forster. *Stomachus marinus* (L.), larva, Glenelg and Cape Jervis; *Cucullanellus sheardi* Justn. and Mawson, Glenelg; *Echinocephalus uncinatus* Molin, larva, Glenelg.
- LATRIDOPSIS FORSTERI Casteln. *Cucullanellus sheardi* J. & M., Kangaroo Island.
- DACTYLOPHORA NIGRICANS Richardson. *Cucullanellus sheardi* J. and M., Backstairs Passage and Rapid Bay.
- PSEUDOLABRUS PSITTACULUS Richardson. *Echinocephalus uncinatus* Molin, larva, Port Noarlunga.
- SILLAGINODES PUNCTATUS C. & V. *Echinocephalus uncinatus* Molin, larva, Glenelg.
- PLATYCEPHALUS BASSENSIS C. & V. *Ascarophis cooperi* n. sp., Rapid Bay.
- PLATYCEPHALUS FUSCUS C. & V. *Echinocephalus uncinatus* Molin, larva, Glenelg.
- CNIDOGLANIS MEGASTOMA Richardson. *Cucullanellus cnidoglanis* n. sp., Port Willunga.
- APTYCHOTREMA BANKSII M. & H. *Proleptus trygonorrhinae* J. & M., Rapid Bay.

The South Australian shovel-nosed ray was identified by Waite (1921, 27; 1923, 47) as *Rhinobatus philippi* Müll. & Henle, syn. *R. banksii* M. & H. McCulloch (1919, 225; 1922, 10; 1934, 10) listed the species from New South Wales as *R. banksii*. Garman in 1913 used the name *R. philippi*, which was not quoted by McCulloch or by Whitley (1934). Norman (1926, 979) allocated *R. banksii* and *R. bougainvillii* M. & H. to *Aptychotrema* and reported that both occurred in New South Wales and were frequently confused. He listed *R. philippi* of Garman and of Waite as a synonym of *A. banksii*. McCulloch's check-list (1929, 22) contains the names *A. bougainvillii* and *A. banksii*, the range of the latter including all Australian States. Whitley (1934) listed the former as the Port Jackson species, and mentioned the chief differences between it and *A. banksii*. In view of the foregoing, we have used the latter name for the southern shovel-nosed ray.

STOMACHUS MARINUS (Linn.)

We have already recorded the occurrence of this widely distributed larva in several species of Australian fish. We reported it as *Capsularia marina* (1943, 22-32), but have recently (1945) indicated that *Capsularia* is a synonym of *Stomachus*. We now record as additional hosts, *Caranx georgianus* from American River, and *Pagrosomus auratus* from Glenelg and Cape Jervis.

Ascarophis cooperi n. sp.

(Fig. 1-3)

Four males and one female were taken from *Platycephalus bassensis* from Rapid Bay. Male, 7-8 mm. long; female, 12 mm.

The two lateral labial processes at the anterior end are small, but distinct. Vestibule 11-13 mm. long, 5 μ wide. Ratio of width of body at level of posterior

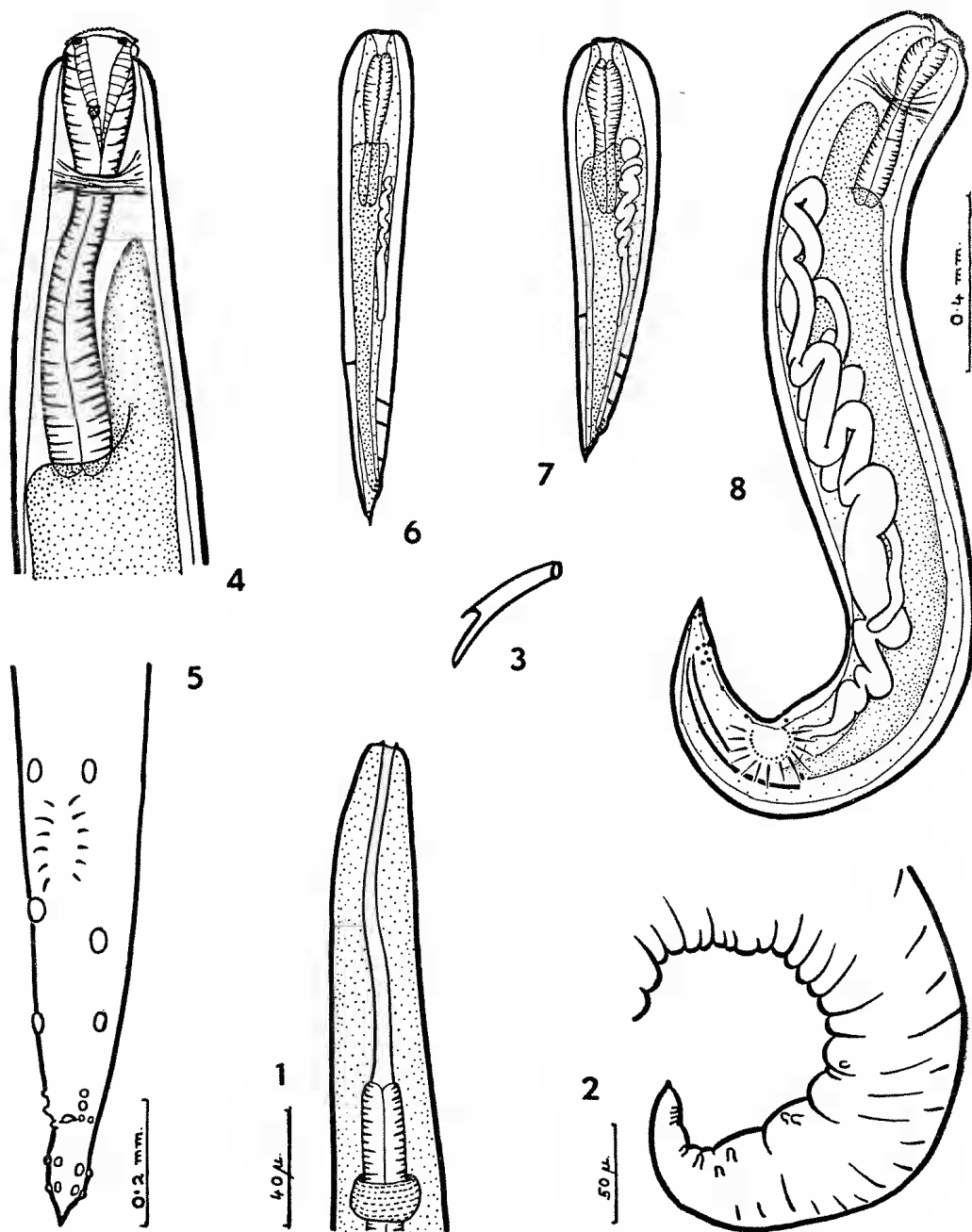


Fig. 1-3, *Ascarophis cooperi*: 1, anterior end; 2, male tail; 3, tip of longer spicule. Fig. 4-5, *Cucullanellus cnidoglanis*: 4, anterior end; 5, male tail. Fig. 6-8 *Cucullanellus sheardi*, successive stages in growth of male. Fig. 1 and 3, drawn to same scale; 4, 6, 7 and 8 to same scale.

end of vestibule to length of vestibule is 1:3·1-4·2. Nerve ring a short distance behind vestibule. Anterior part of oesophagus 1·7-2·3 times as long as vestibule; posterior part 6-7 times as long as anterior; posterior end of oesophagus dividing body into anterior and posterior parts in the ratio 1:3·7-5. Excretory pore at about ·13 mm. behind end of vestibule.

Caudal alae of male very narrow, with four pairs of preanal and six pairs of postanal papillae. Two or three longitudinal rows of bosses on ventral surface between alae. Spicules ·07-·09 mm., and ·31-·32 mm. long respectively; outer part of longer possessing unusual form (fig. 3).

Vulva at beginning of posterior third of body. Ripe eggs 18 by 36 μ , thick-shelled, with coiled larva.

These specimens are regarded as belonging to a new species, differing from *A. australis* J. & M. 1944 (also from a South Australian telost) in the position of the vulva, the size and shape of the eggs, the form of the longer spicule and the length of the oesophagus. The species closely resembles *A. nototheniae* J. & M. 1945, but differs in the form of the longer spicule and the size of the eggs. It is easily distinguished from *A. upeneichthys* J. & M. 1945 by the greater length of the vestibule. The female resembles closely that of *A. morrhuae* Beneden, as re-described by Baylis (1933), but differs in the egg size; the absence of an account of the male of that species prevents further comparison.

Cucullanellus cnidoglanis n. sp.

(Fig. 4-5)

From the estuarine catfish, *Cnidoglanis megastomus*, from Port Willunga. The worms were somewhat shrivelled and difficult to roll; consequently the position of the cervical papillae was not ascertained.

Male 6 mm. long; female 7 mm. Head of the usual Cucullanellid type; each lateral "lip" with three papillae. In the specimen figured, the jaws (the two lateral anterior margins of the oesophagus) are protruded through the mouth. Oesophagus ·8-1 mm. long; intestinal caecum ·4-·55 mm. in length. Nerve ring ·32-·35 mm. from anterior end of worm. Excretory pore just behind oesophagus.

Vulva inconspicuous, dividing body into anterior and postvulvar regions in the ratio of 1·4:1. Eggs about 32 by 72 μ . Female tail long, ·24 mm., tapering.

Spicules ·8-1 mm. in length; three pairs of large preanal papillae, four pairs adanal, four pairs caudal.

The species closely resembles *C. pleuronectidis* Yamaguti 1935, differing in minor details, e.g., the exact arrangement of the adanal papillae, and the greater length of the caecum relative to that of the oesophagus.

CUCULLANELLUS SHEARDI Johnson and Mawson

This species, originally described by us (1944, 64) from *Threpterus maculosus* from Cape Borda, is now recorded from *Dactylophora nigricans*, Backstairs Passage and Rapid Bay; *Latridopsis forsteri* from Kangaroo Island; and *Pagrosomus auratus* from Glenelg.

Numerous specimens of various ages were studied. In the case of males we have considered the state of maturity of the testis tubule to be an indication of relative age. The youngest worm was a short, very thin male, ·72 mm. long; others which measured 1·1 mm. in length (fig. 6), were also very narrow. Others which were older, were of about the same length as the latter but were very much wider, because of the relatively wide transparent cuticle surrounding them; one such worm, ·95 mm. long, is indicated in fig. 7. The longest male observed measured 2·5 mm. As we mentioned in our original account, the female is about

4 mm. in length. The presence of a mid-dorsal papilla in the vicinity of the junction of the anterior two-thirds and posterior one-third of the body length in very young males was mentioned in the original description, and has been observed in the present material. Such a papilla has been noted by us in young males of *C. fraseri* (Baylis 1929), and it is possible that its presence is a feature of the genus.

ECHINOCEPHALUS UNCINATUS Molin

The larval stage of this species was found encysted in the mesentery or omentum of the following fish:—*Platycephalus fuscus*, *Pagrosomus auratus* and *Sillaginodes punctatus* from Glenelg; and from *Pseudolabrus psittaculus* from Port Noarlunga.

PROLEPTUS TRYGNORRHINAE Johnston and Mawson

A female of this species, originally described (1943, 187) from *Trygonorhina fasciata*, was collected from *Aptychotrema banksii* from Rapid Bay.

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